

CLAIMS

1. A driver circuit for driving a line in a network comprising:

5 first driving means for driving the line;
second driving means for driving the line; and
switching means for switching between the first and second driving means.

10 2. The driver circuit of claim 1, wherein the switching means operates to make only one of said first or second driving means active at any one time.

15 3. The driver circuit of claim 1, wherein the switching means comprises:

a first input for enabling and disabling the first driving means; and

a second input for enabling and disabling the second driving means;

20 wherein, when one of the first or second driving means is enabled, the other driving means is disabled.

25 4. The driver circuit of claim 1, wherein the first driving means comprises one or more current sources.

5. The driver circuit of claim 4, wherein said current sources are connected in a bridge configuration.

30 6. The driver circuit of claim 1, wherein the driver circuit is connected to a supply voltage and further comprises:

a plurality of terminating elements coupled to an output voltage of the driver circuit;

wherein the driver circuit operates to limit the output voltage to about one-half of the supply voltage.

7. The driver circuit of claim 1, wherein the second driving means comprises a voltage source.

8. A driver circuit for driving lines in a network comprising:

a plurality of current sources connected in a bridge configuration and coupled to said lines to provide a bridge current driver;

a voltage source coupled to said lines to provide a voltage driver;

a plurality of terminating elements coupled to the current sources, the voltage source, and to said lines;

a supply voltage coupled to the bridge current driver and the voltage driver, wherein the supply voltage includes a mid-point termination voltage;

switching means for switching between the bridge current driver and the voltage driver, such that, when the bridge current driver is selected, the terminating elements are coupled to the mid-point termination voltage and the lines are driven from the bridge current driver; and

when the voltage driver is selected, the bridge current driver is disabled and the terminating elements are coupled to the voltage driver.

9. The driver circuit of claim 8, wherein the mid-point termination voltage is approximately equal to one-half the supply voltage.

10. The driver circuit of claim 8, wherein the terminating elements comprise a network of resistors.

11. A line driver circuit comprising:

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a current source coupled to a first pair of terminals of a termination network; and

a voltage source coupled to a second pair of terminals of the termination network;

5 wherein the line driver circuit operates in a first configuration to establish a first mode of operation, and in a second configuration to establish a second mode of operation.

10 12. The line driver circuit in accordance with claim 11, wherein the current source comprises a plurality of current sources.

15 13. The line driver circuit in accordance with claim 12, wherein the plurality of current sources are arranged in a bridge configuration.

20 14. The line driver circuit in accordance with claim 11, wherein the first mode of operation comprises voltage source drive mode.

25 15. The line driver circuit in accordance with claim 14, wherein the first configuration of the line driver circuit corresponding to voltage source drive mode comprises driving the second pair of terminals of the termination network with the voltage source while the current source is maintained in an OFF state.

30 16. The line driver circuit in accordance with claim 11, wherein the second mode of operation comprises current source drive mode.

35 17. The line driver circuit in accordance with claim 16, wherein the second configuration of the line driver circuit corresponding to current source drive mode comprises driving the first pair of terminals of the

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termination network with the current source while the voltage source maintains the second pair of terminals of the termination network at a predetermined, non-zero potential.

18. The line driver circuit in accordance with claim 17, wherein the predetermined, non-zero potential comprises one-half of line driver circuit supply voltage.

10 19. The line driver circuit in accordance with claim 11, wherein the termination network comprises a resistive termination network.

15 20. The line driver circuit in accordance with claim 19, wherein the resistive termination network comprises a pair of resistors with the voltage source outputs coupled to a first end of each resistor and the current source outputs coupled to a second end of each resistor.

20 21. A method for providing multi-mode driver capability, the method comprising the steps of:

(a) providing a line driver circuit including both a current source and a voltage source;

25 (b) selecting a first or second mode of operation;

(c) operating the line driver circuit in a first configuration when the first mode of operation is selected; and

30 (d) operating the line driver circuit in a second configuration when the second mode of operation is selected.